



# **Armed Forces College of Medicine**

## **AFCM**



# Back of thigh and popliteal fossa

# INTENDED LEARNING OBJECTIVES (ILO)

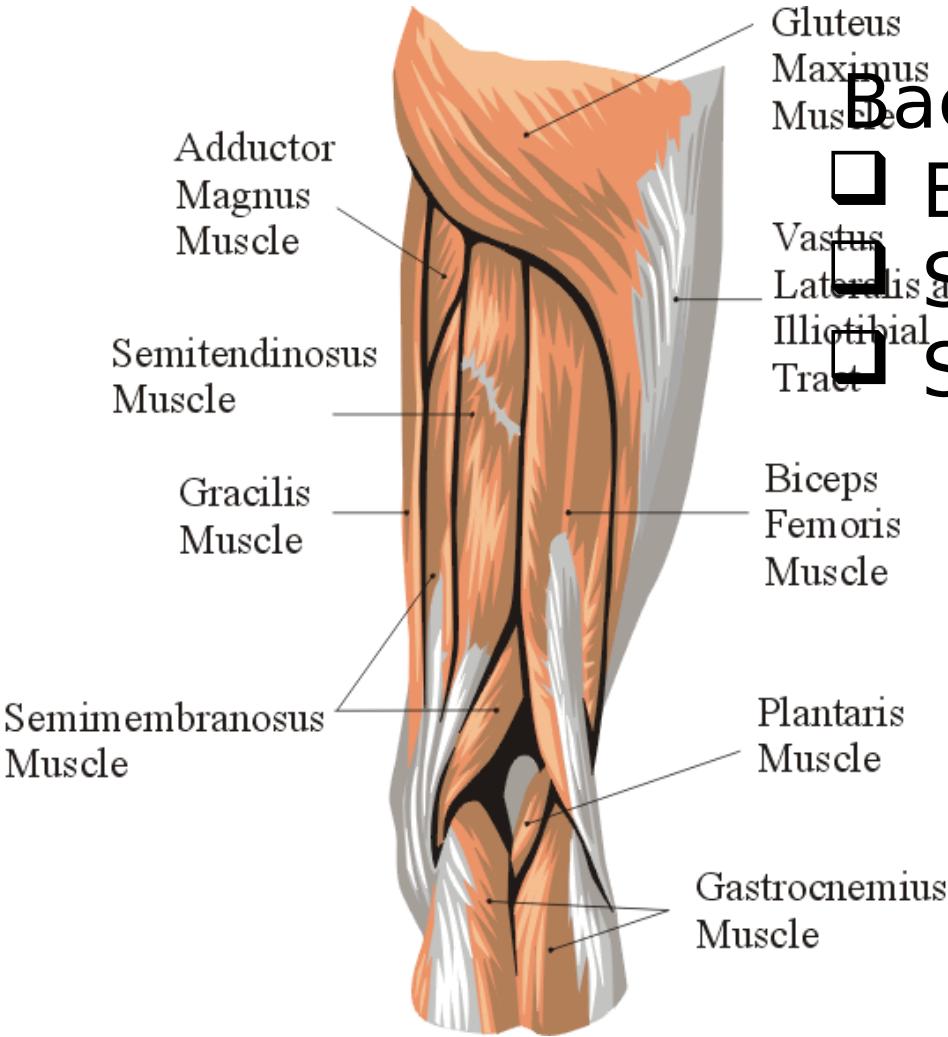


By the end of this lecture the student will be able to:

1. Describe the attachments, action and nerve supply of muscles of back of thigh
2. Enumerate boundaries and contents of popliteal fossa
3. Describe root value, origin, course and branches of tibial and common peroneal nerve
4. State beginning, course and branches of popliteal artery
5. State beginning, course and termination of popliteal vein.



# Muscles of back thigh



Back of thigh includes the hamstring muscles

- Biceps femoris
- Semitendinosus
- Semimembranosus

<https://www.pinterest.com/pin/798685315136222352/>



# Biceps Femoris

- ❖ The long head from the ischial tuberosity
- ❖ Short head from the linea aspera and the lateral supracondylar ridge of the femur

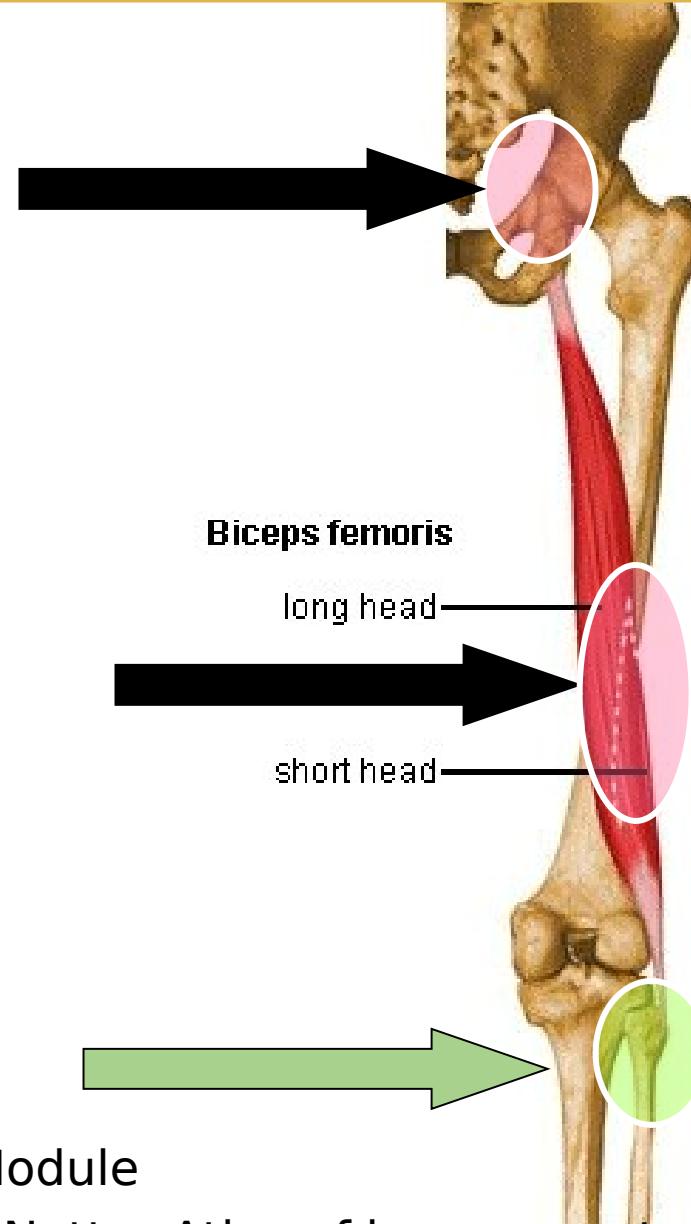
## Insertion :

**Two heads unite just above knee insert into the head of the fibula**

**Nerve supply : long head by tibial part of sciatic and short head by common peroneal part of sciatic**

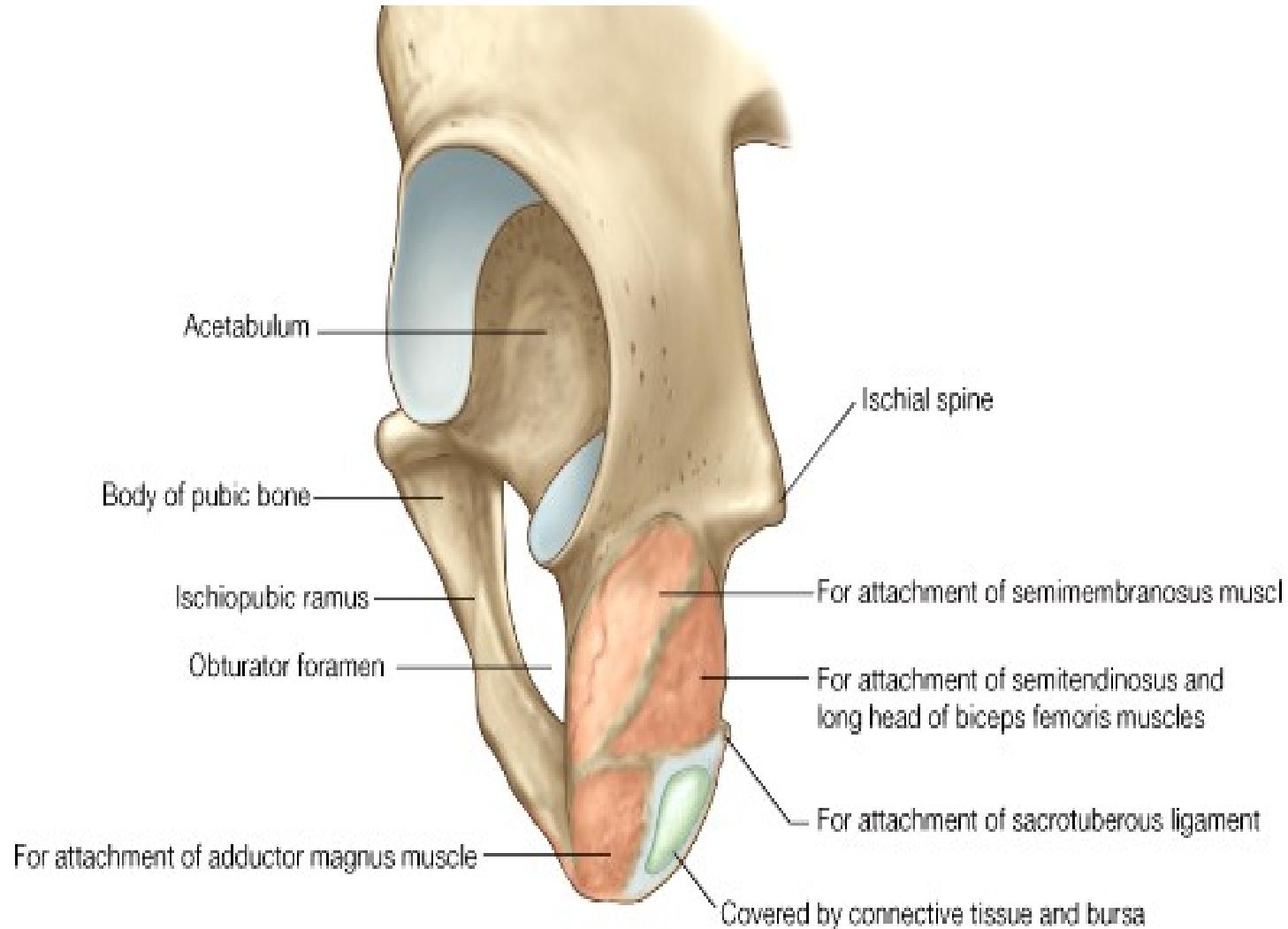
## Action :

- ❑ Flexes and laterally rotates the leg at the knee joint,
- ❑ long head extends the thigh at the hip joint



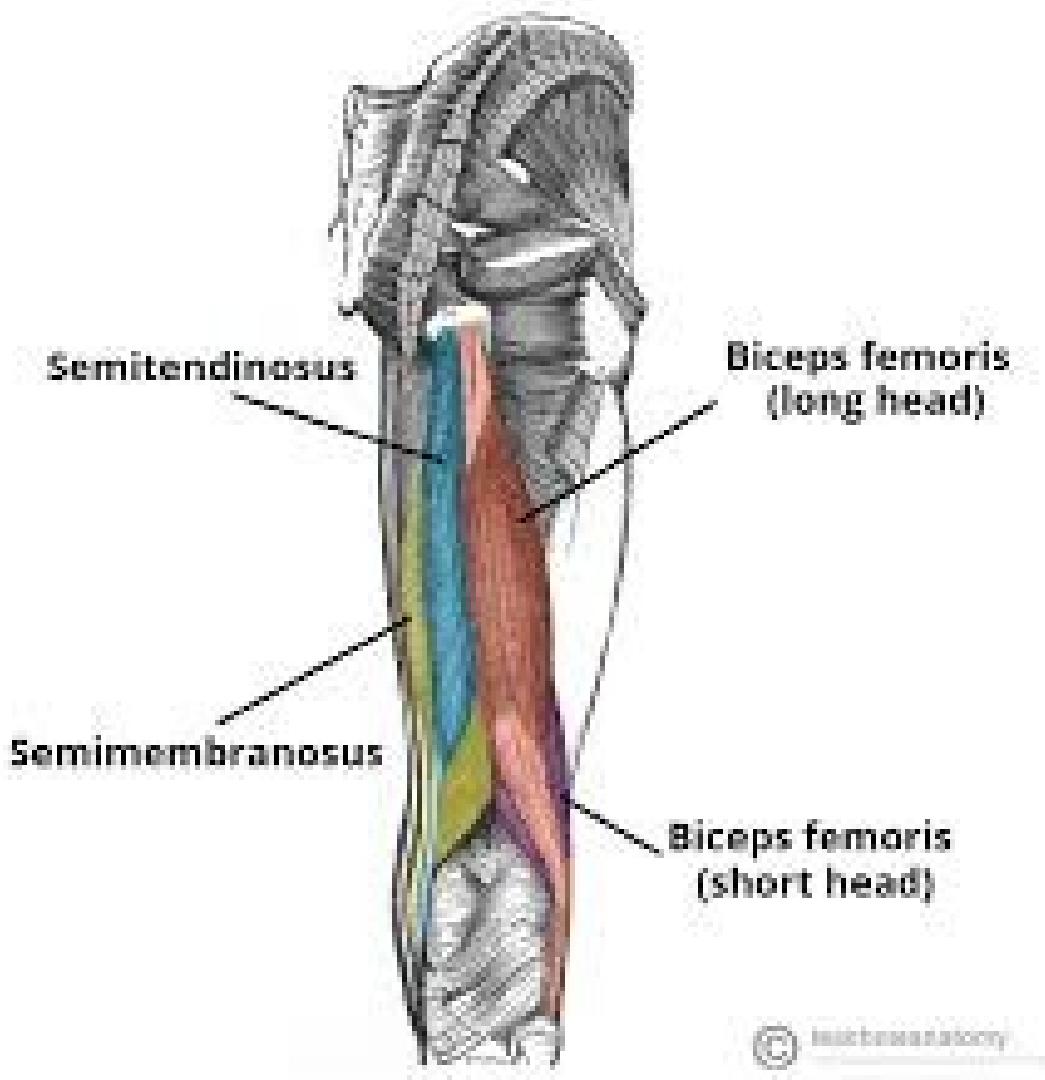


# Origin of hamstrings





# Biceps femoris



<https://teachmeanatomy.info/lower-limb/muscles/high/hamstrings/>



# Semitendinosus

**Origin** ischial tuberosity

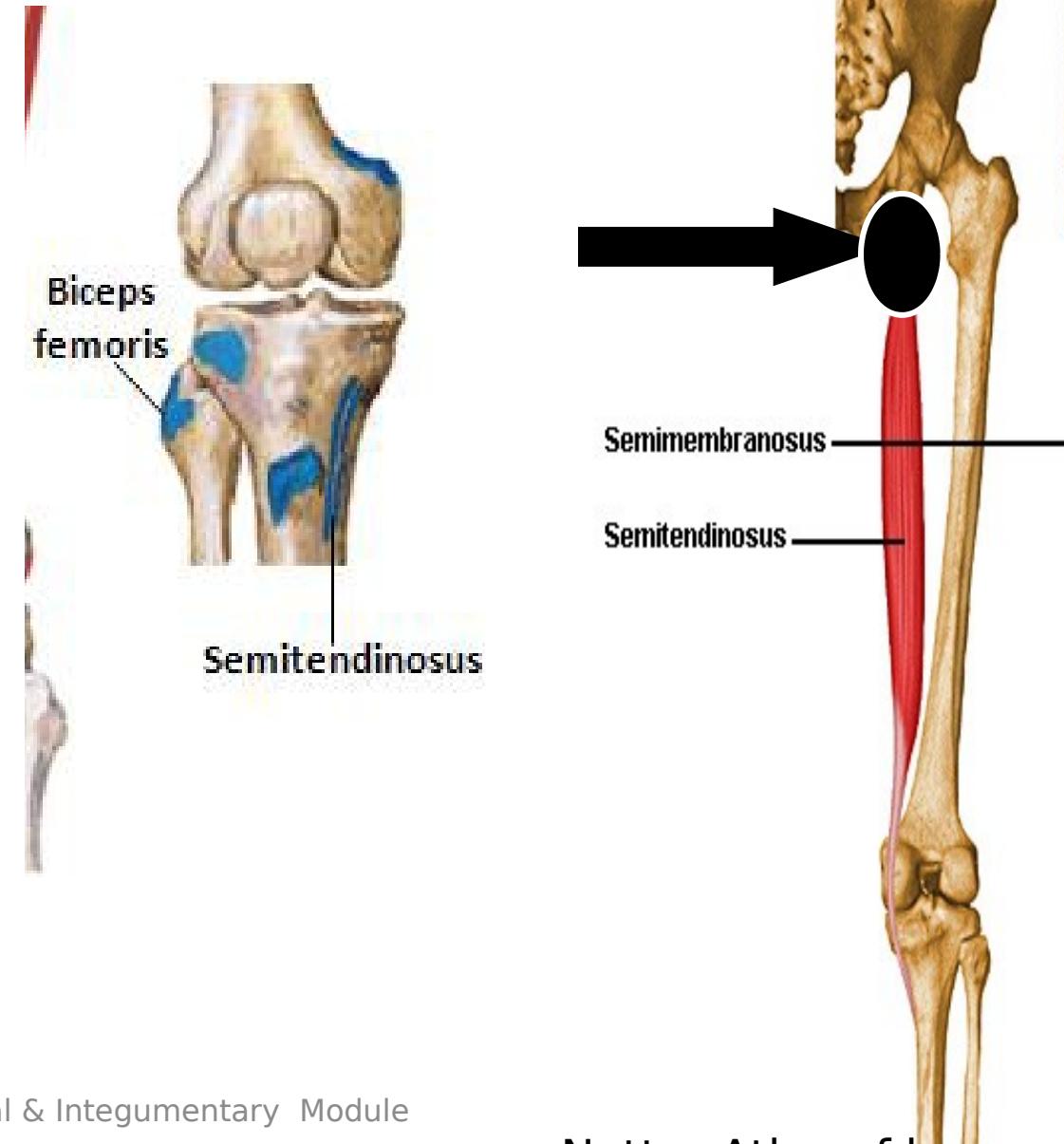
**Insertion**

long tendon into the upper part of the medial surface of shaft of the tibia

- **Nerve Supply:** The tibial portion of sciatic nerve

**Action :**

- Flexes and medially rotates the leg at the knee
- Extends the thigh at the hip joint



# Semimembranosus

**Origin**

**ischial tuberosity**

**Insertion :**

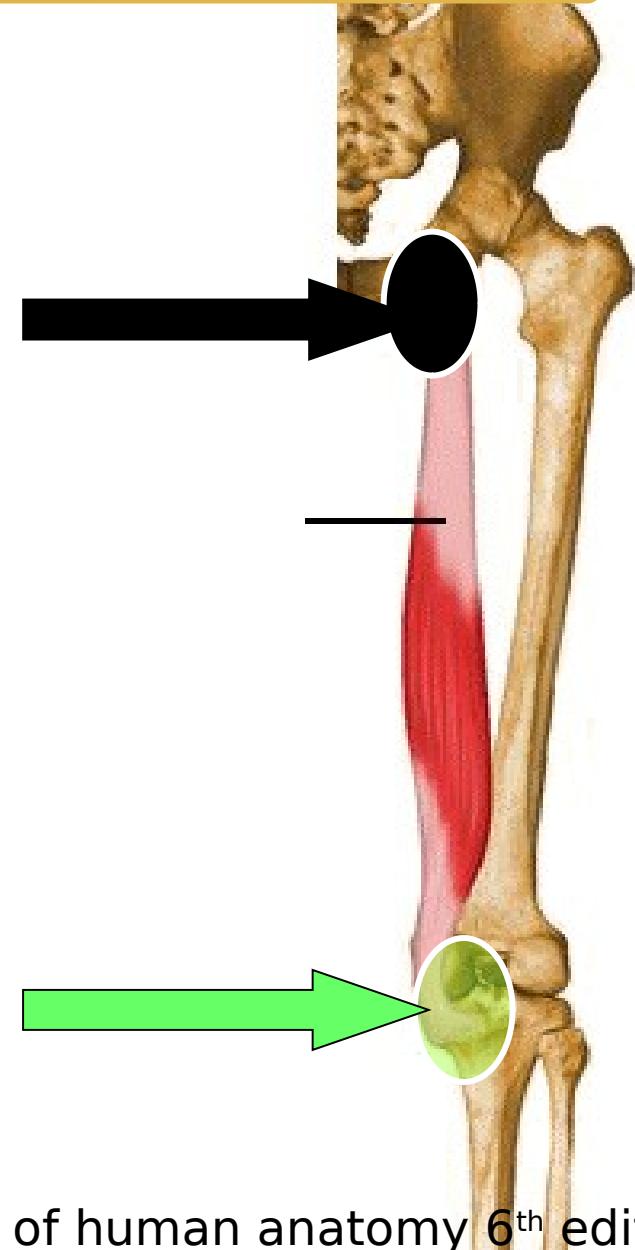
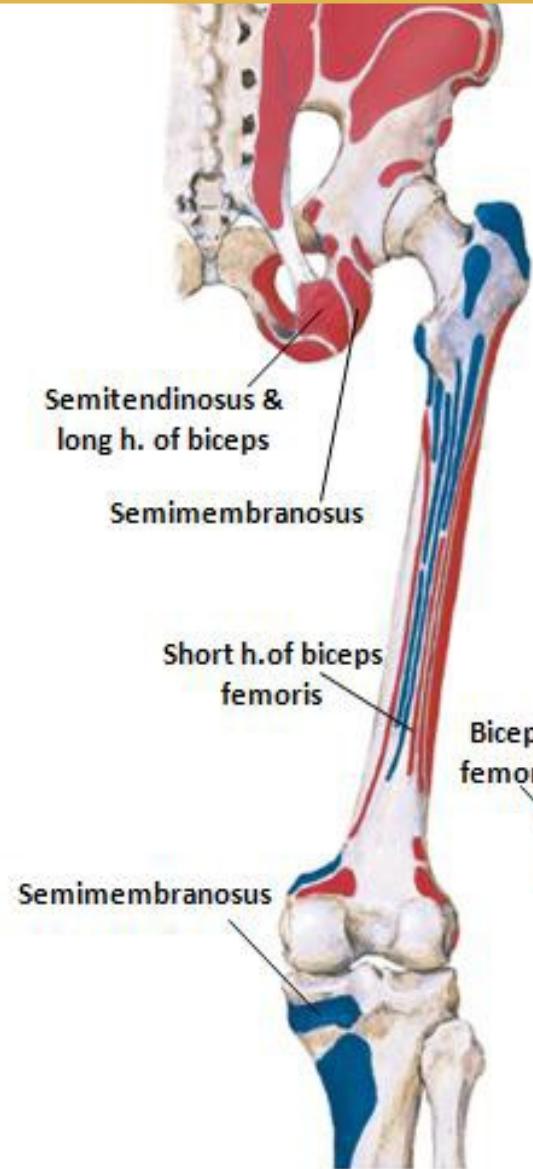
**Into the back of the medial condyle of the tibia**

**It sends a fibrous expansion on the back of the knee joint oblique popliteal ligament**

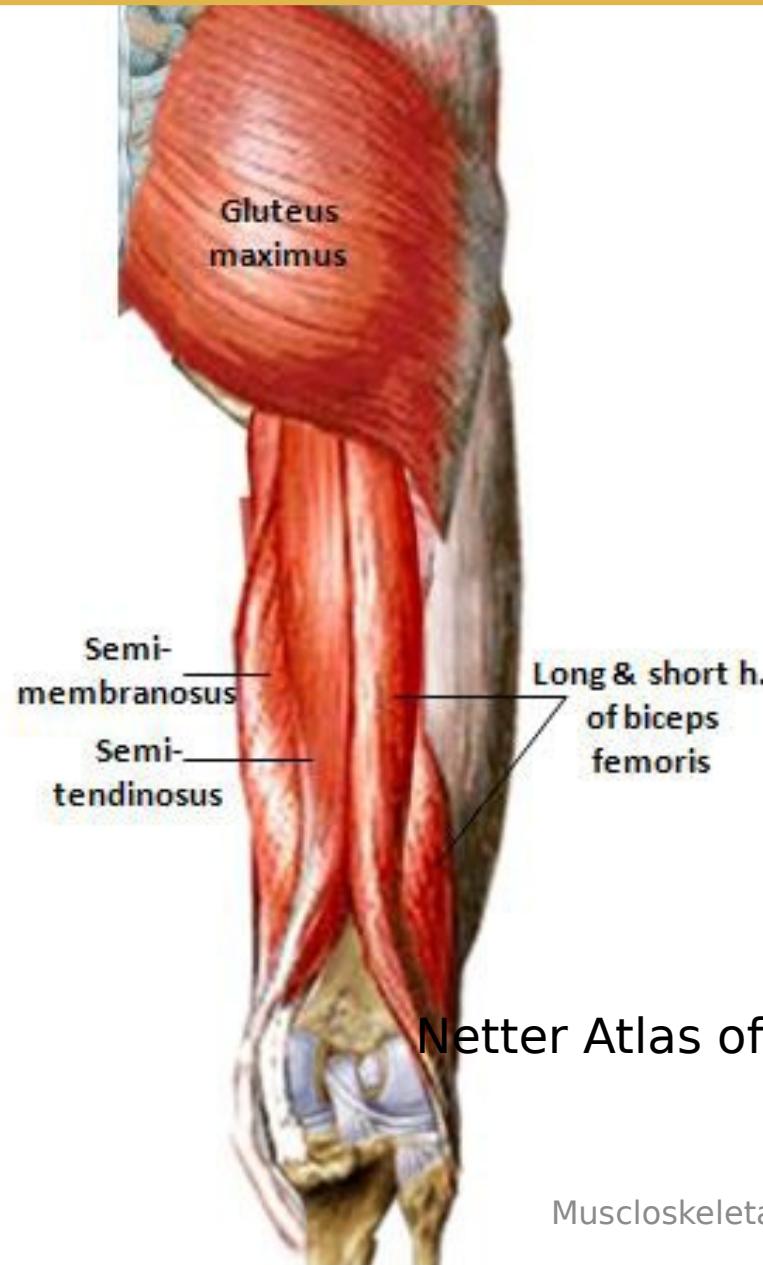
**Nerve Supply:** Tibial part of the sciatic nerve

**Action :**

❖ **Flexes and medially rotates the leg at the knee joint**

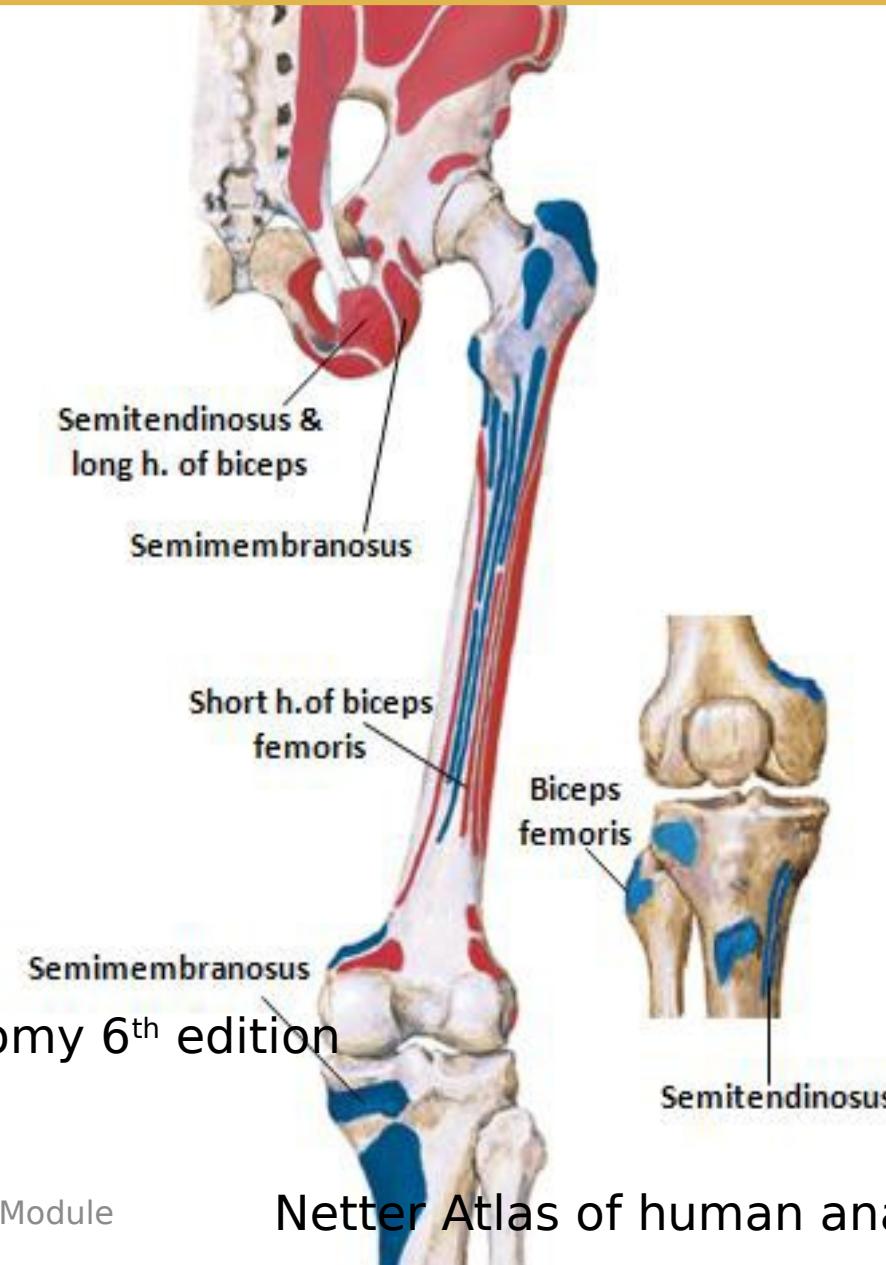


# Hamstring muscles



Netter Atlas of human anatomy 6<sup>th</sup> edition

Muscloskeletal & Integumentary Module

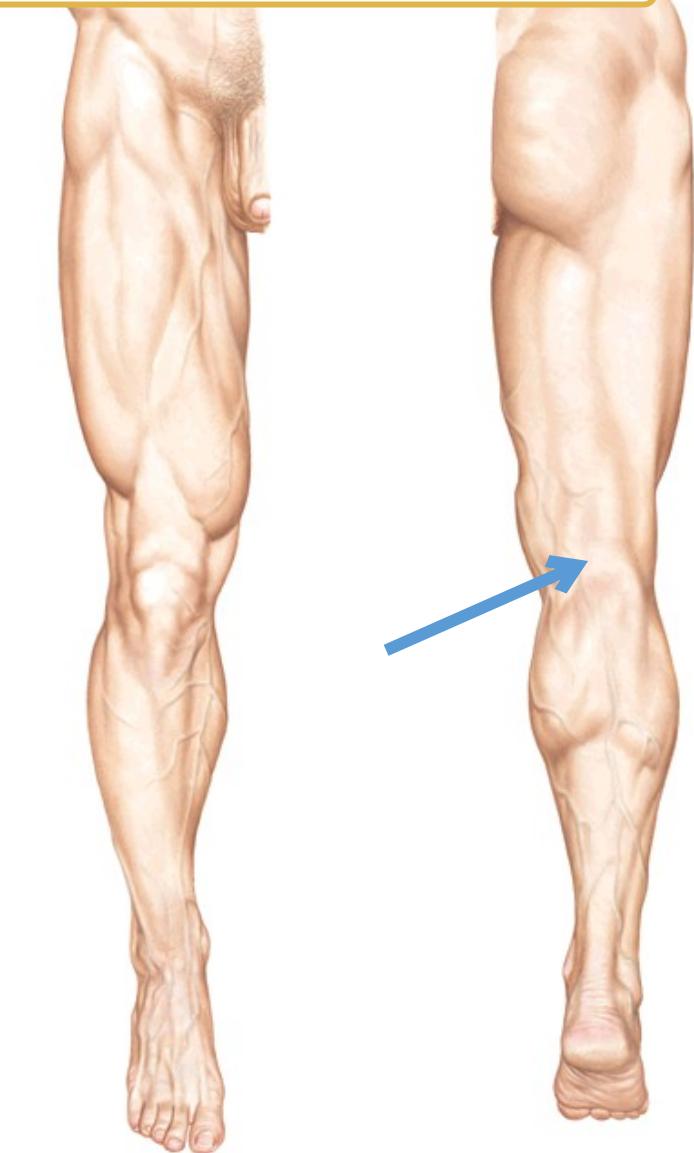


Netter Atlas of human anatomy 6<sup>th</sup> edition



# Popliteal fossa

**A diamond-shaped inter-muscular space lying behind the knee; on the back of leg**



# Boundaries of Popliteal fossa

❖ **Superolateral:**

**Biceps femoris.**

❖ **Superomedial:**

**Semitendinosus & Semimembranosus**

supplemented by sartorius, gracilis & add. magnus.

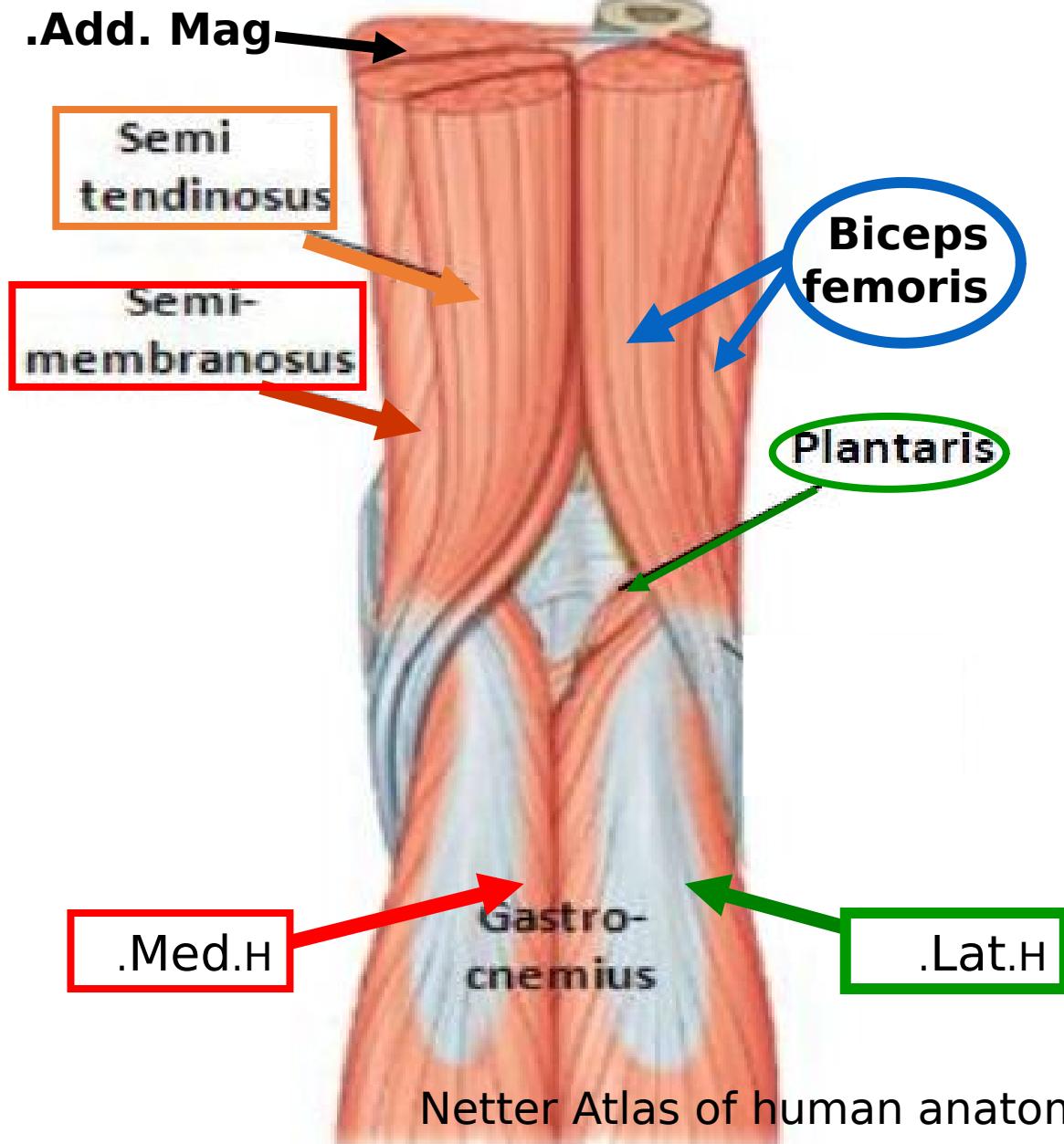
❖ **Inferolateral:**

**Lateral head of gastrocnemius**

supplemented by **plantaris**.

❖ **Inferomedial:**

**Medial head of gastrocnemius.**



# Roof of Popliteal fossa

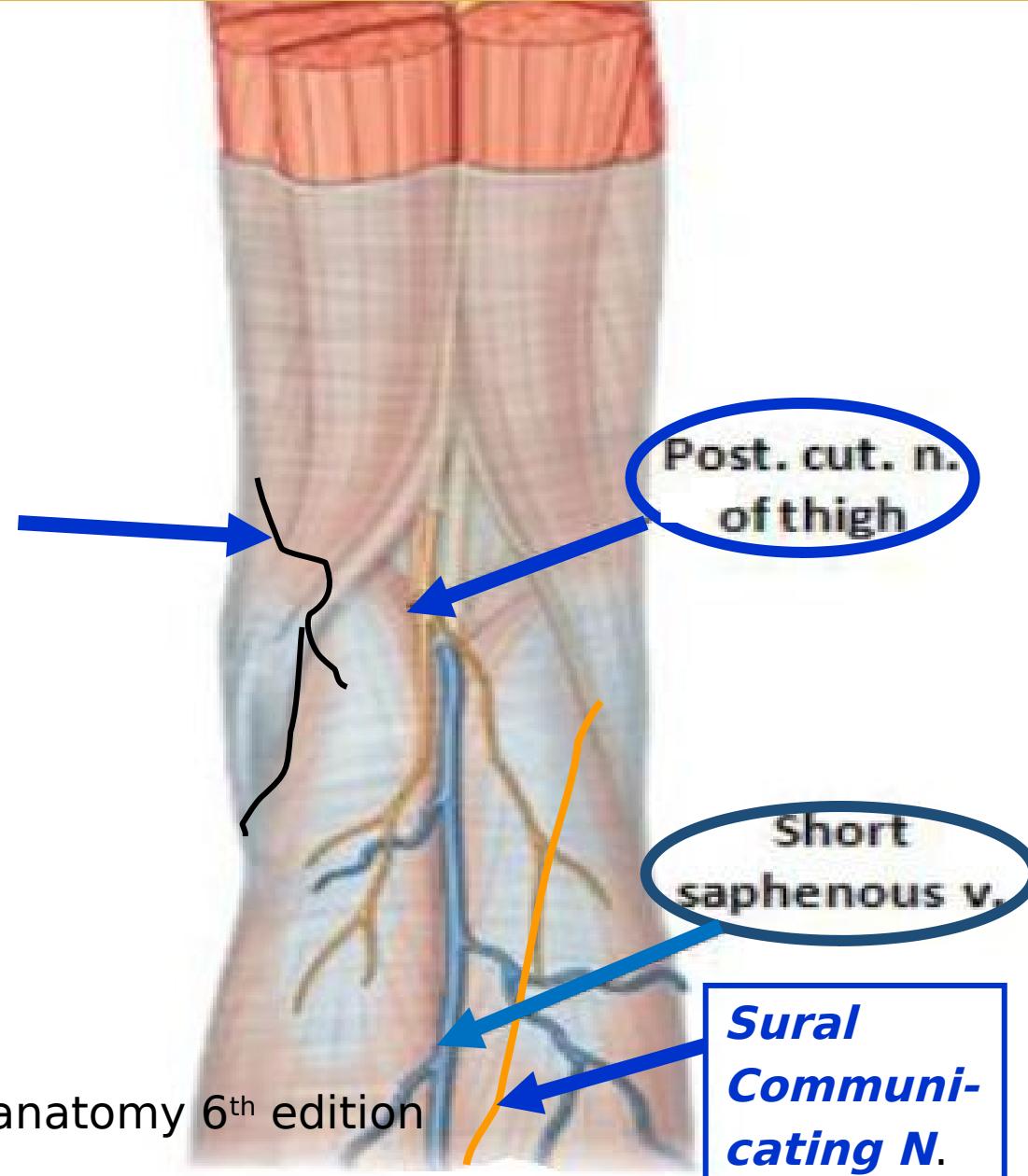
Skin .

Superficial fascia.

containing

- Small (short)saphenous v.
- Post. cut. n. of the thigh.
- Med. Cut. N. of Thigh.
- Sural communicating nerve.

Deep fascia : popliteal fascia

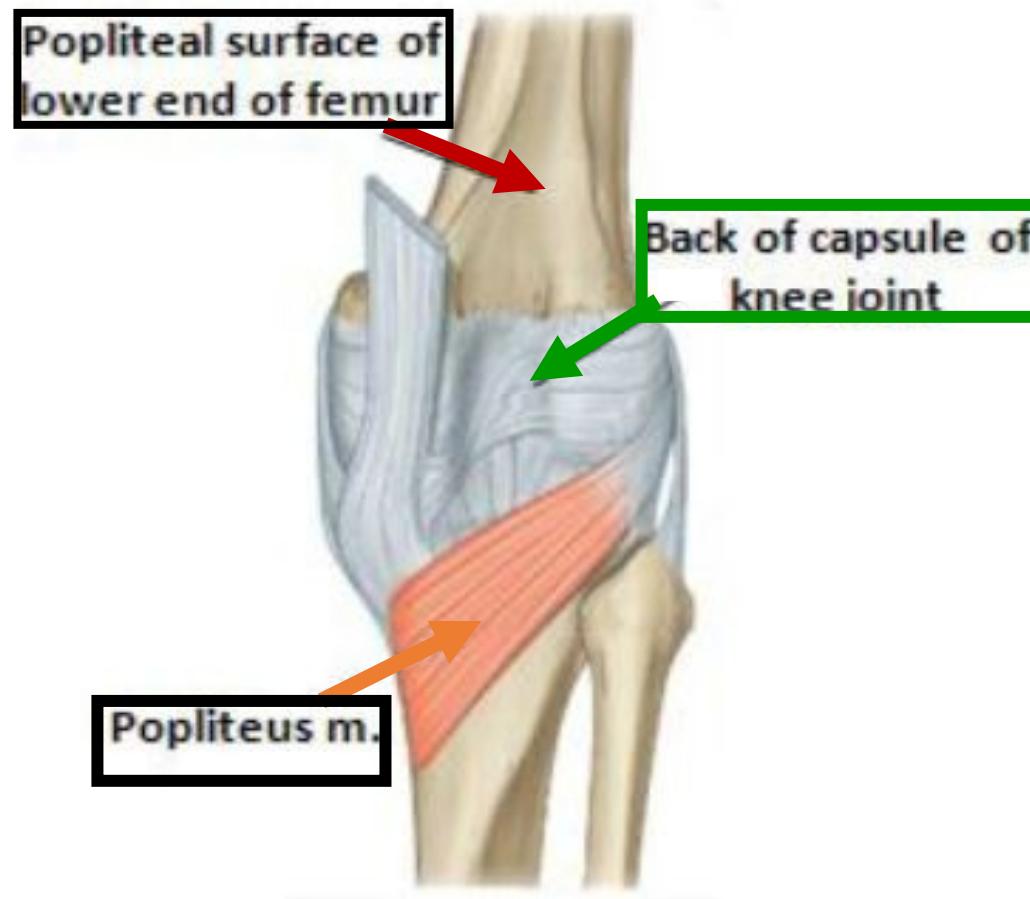




# Floor of Popliteal fossa

- **Popliteal surface of femur.**
  - Back of the capsule of knee.
- **Popliteus m. & its covering.**

The lower limit of the fossa is the distal border of the popliteus





# Boundaries of Popliteal fossa

## A-Vessels

**1-Popliteal artery and its branches.**

**2-Popliteal vein and its tributaries.**

## B-Nerves

.Two terminal brs. Of Sciatic

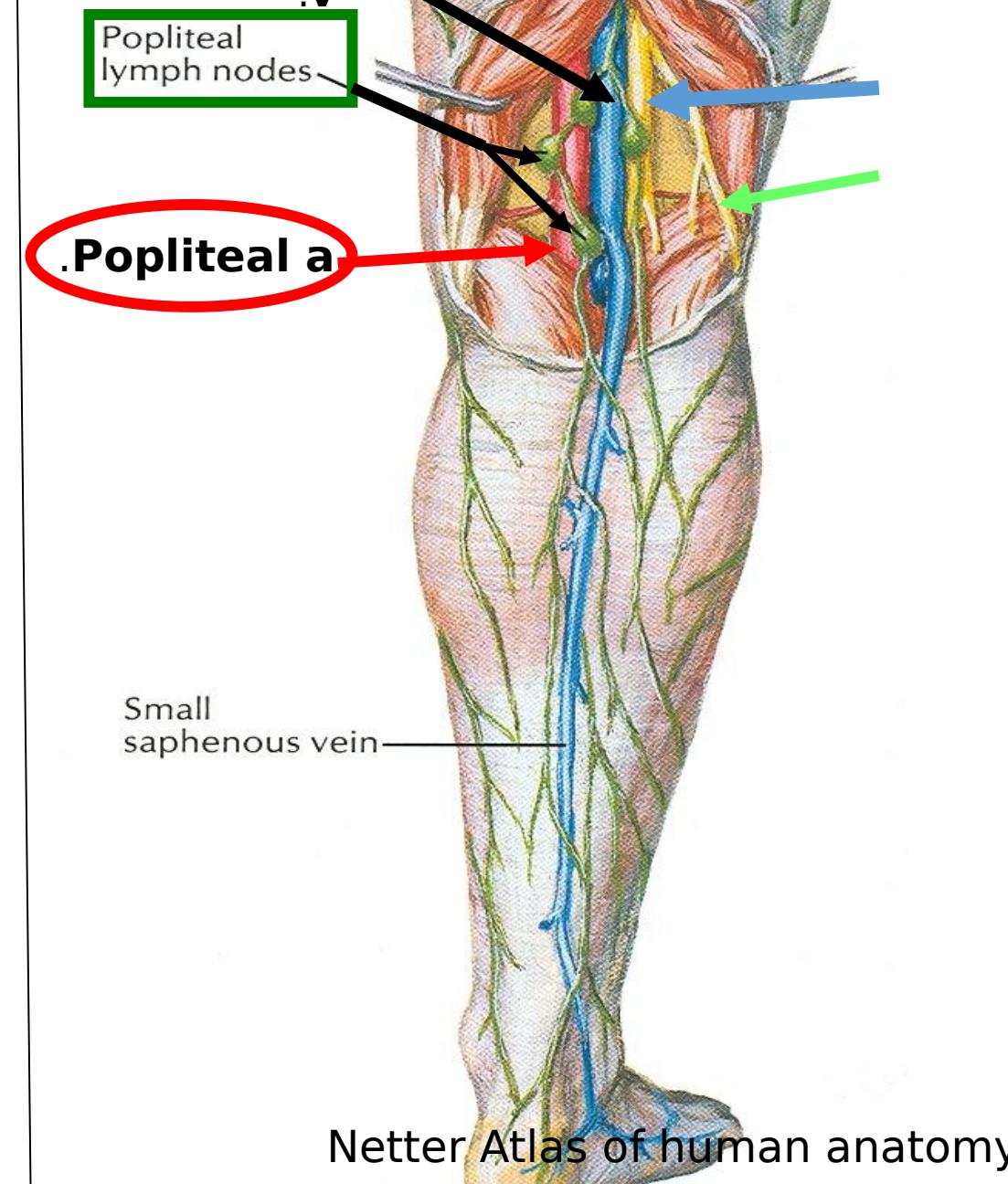
- Tibial nerve

- Common peroneal N.

Post. Cut. N. of thigh.

**C-Popliteal lymph nodes**

**D-Amount of fat.**





# Common peroneal nerve

- Terminal branch of sciatic nerve L 4,5 S1,2
- Passes from **superior** angle of fossa close to **medial side of biceps** femoris to lateral angle of fossa
- Passes **behind** head of fibula
- Curves **around neck of fibula** , ends in peroneus longus by dividing into

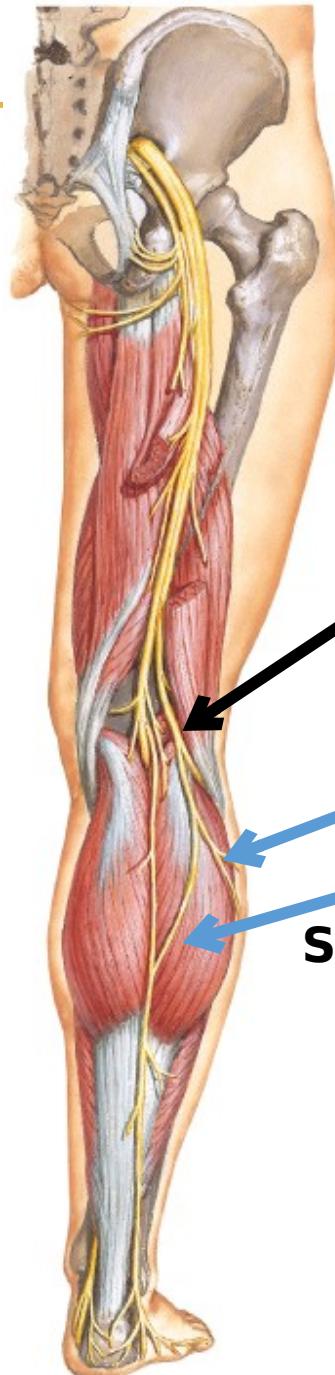
Superficial and deep peroneal

## Branches:

- 1- Sural communicating nerve
- 2- Lateral cutaneous nerve of calf
- 3- Superior and inferior lateral genicular
- 4- Recurrent genicular



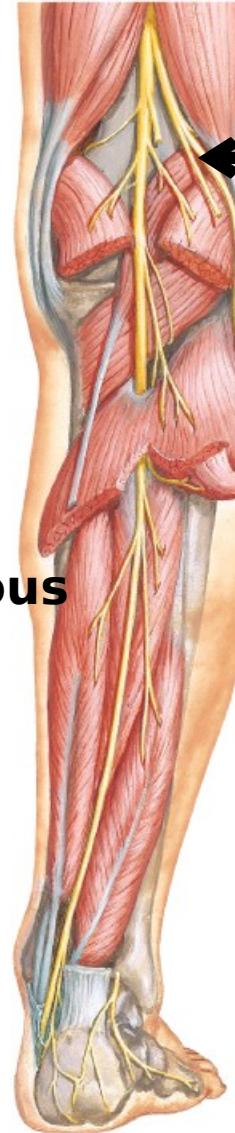
# Common peroneal nerve



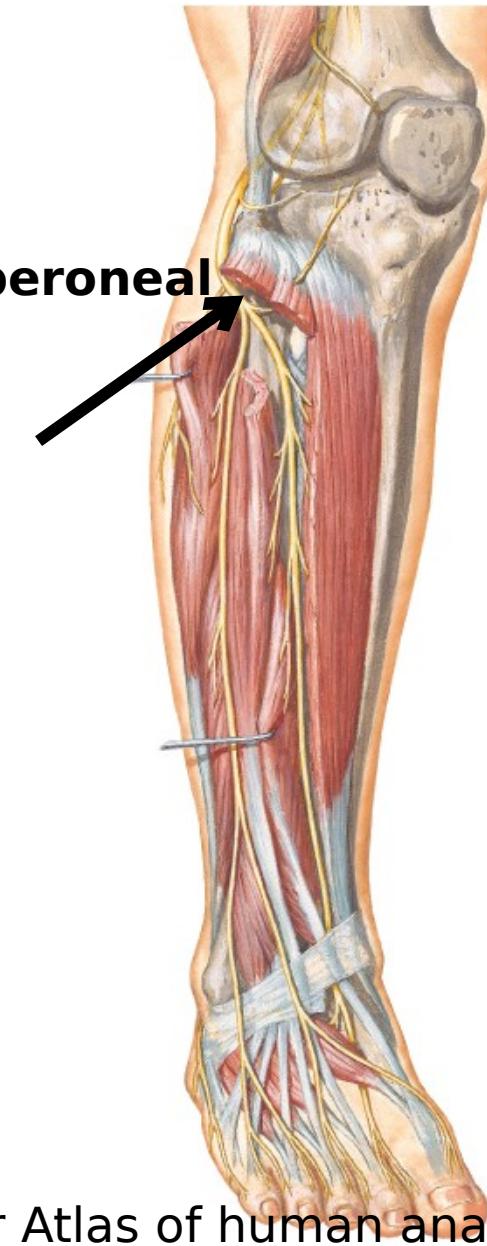
Common peroneal

Lateral cutaneous

Sural communicating



Common peroneal



# Tibial nerve



- Terminal branch of sciatic
- Passes from upper to lower angle
- Crosses popliteal vessels from lateral to medial
- Passes anterior to arch of soleus to back of leg

## Branches

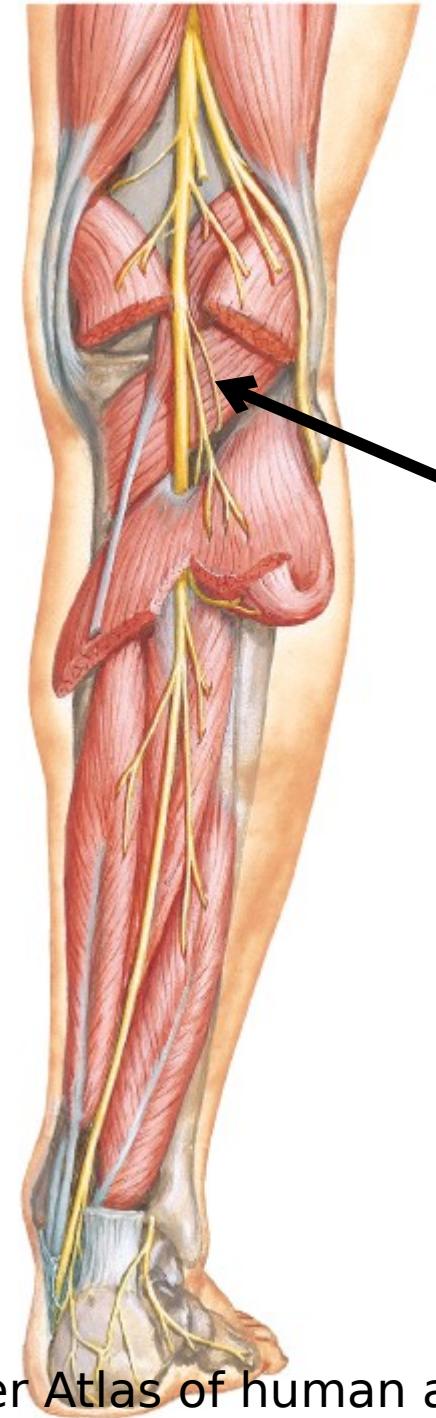
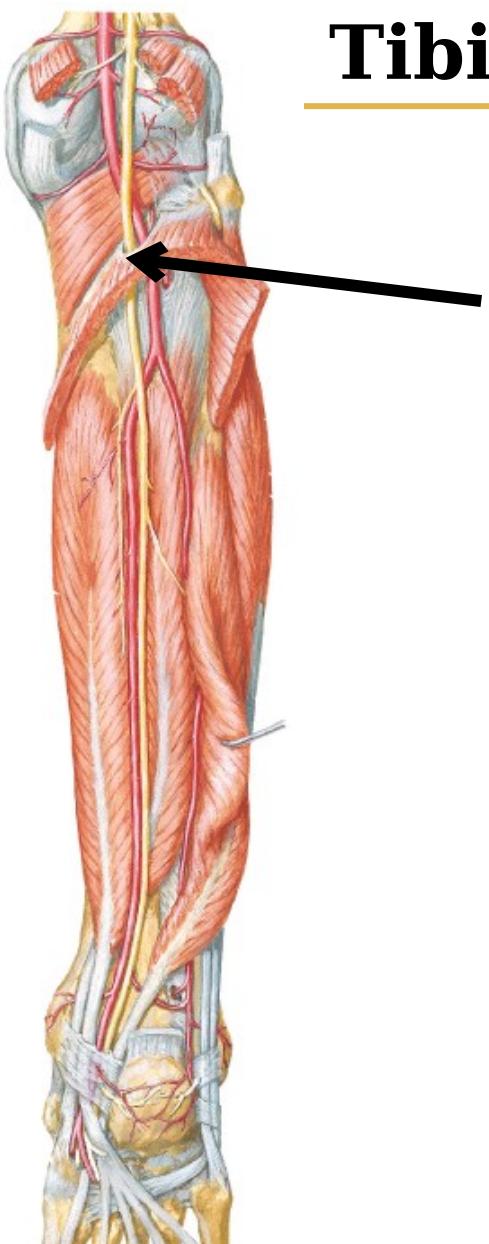
**1-Sural nerve** : passes between 2 heads of gastrocnemeus , accompanied by **small sphenous vein**  
Supply lower third of posterlateral of leg

**2- Superior and inferior medial genicular**

**3- Muscular branches**



# Tibial nerve





# Tibial nerve

Sural nerve



Netter Atlas of human anatomy 6<sup>th</sup> edition

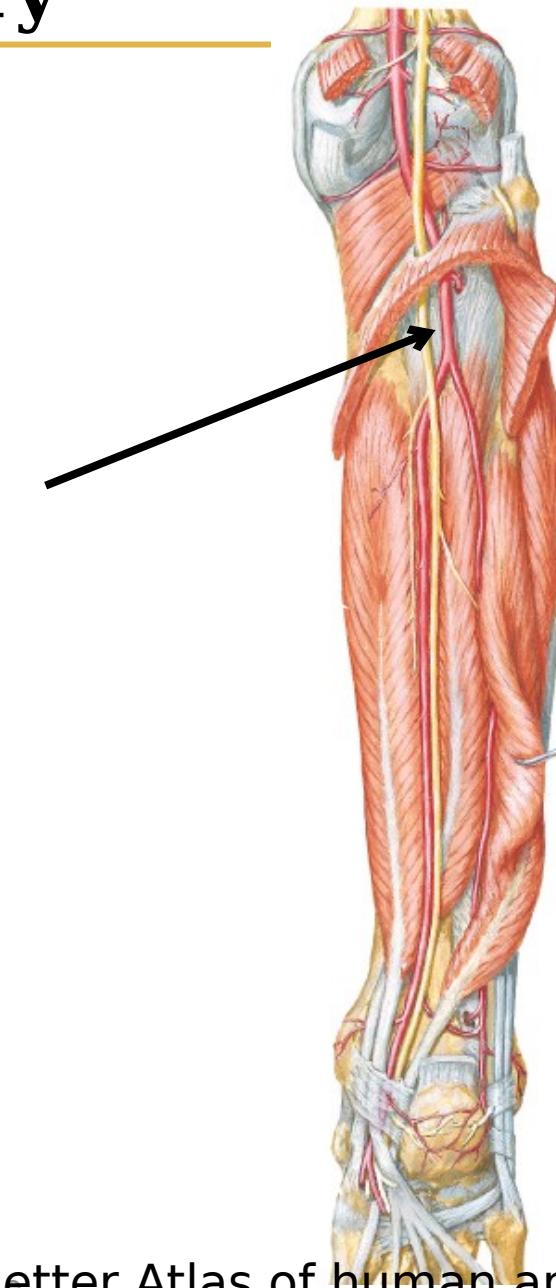
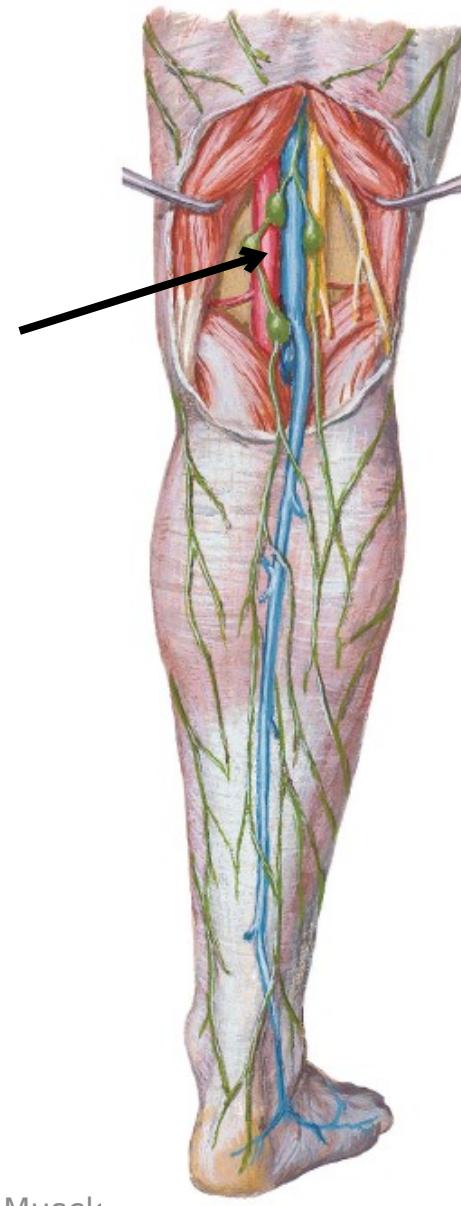
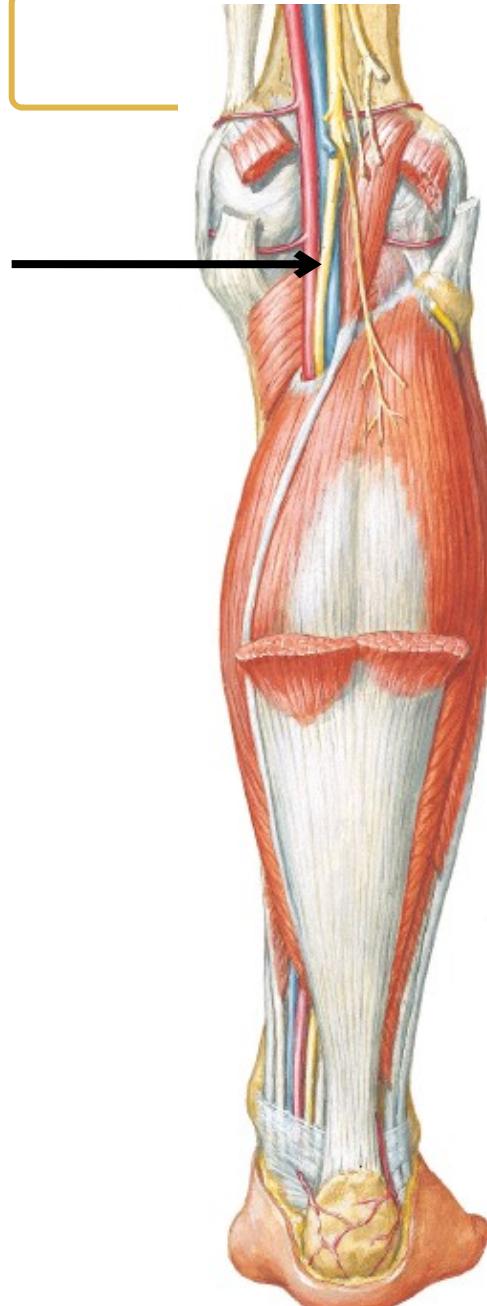
# Popliteal artery



- ❖ Continuation of femoral artery begins at opening in adductor magnus
- ❖ Ends at distal border of popliteus by dividing into anterior and posterior tibial arteries
- ❖ **Deepest** structure in popliteal fossa
- ❖ Popliteal vein and tibial nerve are posterolateral then posterior and posteromedial



# Popliteal artery



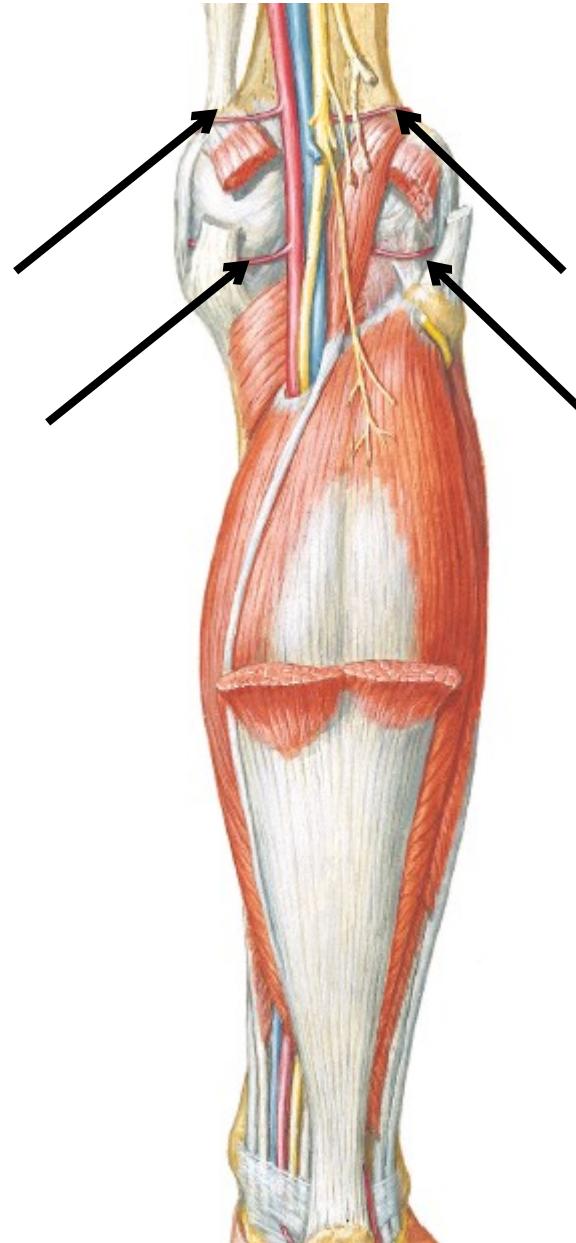
# Branches of popliteal artery



- **Muscular**
- **Articular**
- **Superior medial and inferior medial**
- **Superior lateral and inferior lateral genicular**
- **Middle genicular pierces popliteal ligament**



# Branches of popliteal artery



**Genicular arteries**

Netter Atlas of human anatomy 6<sup>th</sup> edition

Muscloskeletal & Integumentary Module

# **Popliteal vein**

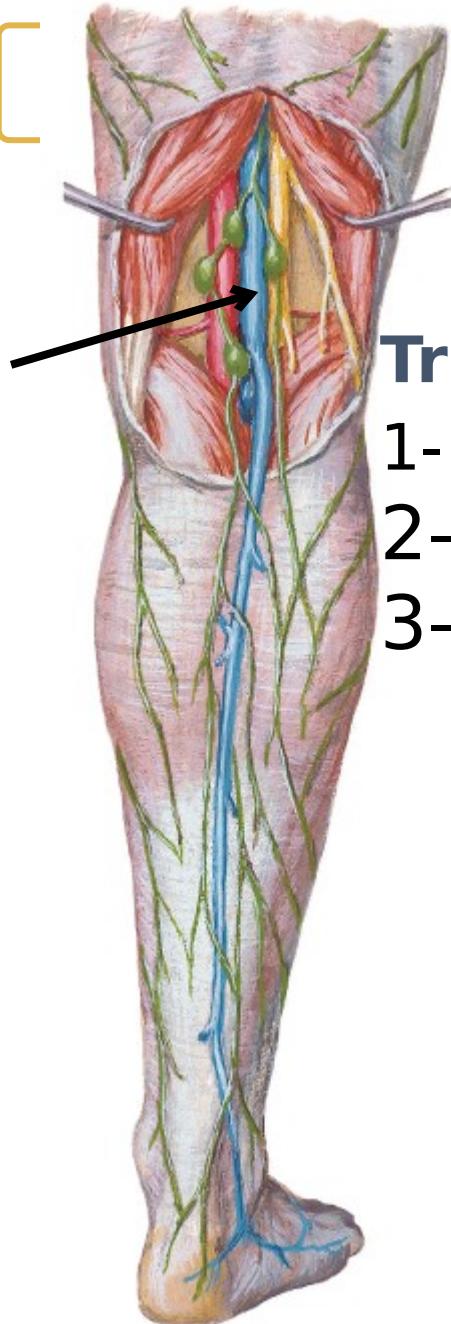


## **Popliteal vein**

- Begins at distal border of popliteus as continuation of veins that accompanies anterior and posterior tibial
  - Ends by passing in opening in adductor magnus to become femoral vein
- ✓ in lower part of fossa it is medial to artery ,
- ✓ in middle part it is posterior
- ✓ In upper part it is lateral to artery



# Popliteal vein



## Tributaries

- 1- **Small sphenous vein**
- 2- Veins corresponding to branches of popliteal artery
- 3- Muscular

# Lecture Quiz



Question 1 which of the following is an action of biceps femoris?

- a) flexion of knee
- b) flexion of hip
- c) adduction of hip
- d) medial rotation

Question 2 : enumerate contents of popliteal fossa

Question 3 enumerate branches of common peroneal nerve

# **SUGGESTED TEXTBOOKS**



1. Clinical anatomy by regions 9<sup>th</sup> edition by Richard Snell
  
2. Frank Netter 6<sup>th</sup> edition